AMENDED IN ASSEMBLY JUNE 20, 2006

AMENDED IN SENATE MAY 26, 2006

AMENDED IN SENATE APRIL 17, 2006

AMENDED IN SENATE MARCH 28, 2006

SENATE BILL No. 1505

Introduced by Senator Lowenthal
(Coauthors: Assembly Members Lieu and Pavley)

February 23, 2006

An act to add Sections 43868 and 43869 to the Health and Safety Code, relating to fuel.

LEGISLATIVE COUNSEL'S DIGEST

SB 1505, as amended, Lowenthal. Fuel: hydrogen alternative fuel.

Existing law imposes various limitations on emissions of air contaminants for the control of air pollution from vehicular and nonvehicular sources. Existing law generally designates the State Air Resources Board as the state agency with the primary responsibility for the control of vehicular air pollution. Under existing law, the state board, in conjunction with other state agencies, is required to develop and adopt a state plan to increase the use of alternative fuels, as defined. Existing law also requires retail sellers, as defined, to procure a specified percentage of electricity generated by eligible renewable energy resources, as defined, called a renewables portfolio standard.

This bill would declare the Legislature's intent that, when the California Hydrogen Highway Blueprint Plan is implemented, it be done in a clean and environmentally responsible and advantageous manner. The bill would require the state board to adopt regulations that will ensure that state funding for the production and use of

hydrogen fuel, as described in the California Hydrogen Highway Blueprint Plan, contributes to the reduction of greenhouse gas, criteria air pollutant, and toxic air contaminant emissions, as specified.

The bill would also require the state board to adopt regulations that are to apply in any year immediately following a 12-month period in which the mass of hydrogen fuel dispensed in California for transportation purposes exceeds ~~1,500~~ *2,500* metric tons, to ensure that the production and *direct* use of hydrogen fuels for motor vehicles in the state, including, but not limited to, any hydrogen highway network that is developed pursuant to the California Hydrogen Highway Blueprint Plan, contribute to a reduced dependence on petroleum, as well as reductions in greenhouse gas emissions, criteria air pollutant emissions, and toxic air contaminant emissions, as specified. The bill would authorize the state board to increase the ~~1,500~~ *2,500*-metric-ton threshold, as specified. The bill would require the California Environmental Protection Agency's Environmental Justice Advisory Committee to meet to discuss the production and distribution of hydrogen fuel in the state, and require the agency secretary, in consultation with the state board, to recommend to the Legislature and the Governor incentives that could be offered to businesses and consumers within the hydrogen fuel industry to spur the development of clean sources of hydrogen fuel.

Vote: majority. Appropriation: no. Fiscal committee: yes. State-mandated local program: no.

The people of the State of California do enact as follows:

SECTION 1. The Legislature finds and declares all of the following:

(a) A network of hydrogen production and distribution facilities for fueling vehicles is developing in California.

(b) The California Environmental Protection Agency has produced the California Hydrogen Highway Blueprint Plan as part of the state's efforts to diversify its sources of transportation fuels available to California motorists by expanding the network of hydrogen fueling stations and availability of hydrogen-powered vehicles in the state.

(c) The California Hydrogen Highway Blueprint Plan establishes initial goals for the greenhouse gas emissions and

renewable energy content of hydrogen produced for use in the hydrogen highway network.

(d) The production of hydrogen fuels for use in vehicles, when made from renewable sources of energy, emits virtually zero net greenhouse gases into the atmosphere.

(e) The use of hydrogen fuel in motor vehicles can reduce or, when used in a fuel cell vehicle, virtually eliminate tailpipe emissions of criteria pollutants.

(f) Hydrogen fueling stations can reduce onsite evaporative emissions when compared with today's gasoline fueling stations.

(g) The widespread use of hydrogen fuels in transportation can reduce California's dependence on petroleum-based fuels, and help enhance our nation's energy security.

(h) Moving toward a hydrogen-based economy with an emphasis on hydrogen fuel production from clean, renewable sources could create thousands of new clean manufacturing and technology jobs for California residents.

(i) Natural gas, while still an emitter of heat-trapping greenhouse gases, is cleaner than other fossil fuels, and therefore is an important part of a transitional strategy to a clean hydrogen fuel economy.

(j) A hydrogen highway network in the state should produce hydrogen fuel from clean, renewable sources and reduce greenhouse gases and other pollutants compared to petroleum-based fuels.

(k) Hydrogen fuel and fuel cell vehicles are a central part of achieving the state's Zero Emission Vehicle Program.

(*l*) According to the California Hydrogen Highway Blueprint Plan, the absence of specific goals for reducing emissions and using renewable resources to produce hydrogen fuel might actually increase greenhouse gas and particulate matter emissions relative to petroleum fueled vehicles.

(m) Hydrogen produced from natural gas or from clean electricity and used in hydrogen vehicles will reduce the consumption of fossil fuels compared to gasoline vehicles.

SEC. 2. Section 43868 is added to the Health and Safety Code, to read:

43868. (a) It is the intent of the Legislature that, when the California Hydrogen Highway Blueprint Plan is implemented, it

be done in a clean and environmentally responsible and advantageous manner.

(b) It is further the intent of the Legislature that the state board work with other relevant state agencies on the production of hydrogen, with an emphasis on hydrogen produced from renewable resources, as part of a strategy to reduce the state's dependence on petroleum, achieve the state's greenhouse gas emission reduction targets, and improve air quality for the state's residents.

(c) It is further the intent of the Legislature that the California Environmental Protection Agency and the state board, as part of the implementation of the California Hydrogen Highway Blueprint Plan, include in their priorities the deployment of hydrogen fueled transit buses.

SEC. 3. Section 43869 is added to the Health and Safety Code, to read:

43869. The state board shall, no later than July 1, 2008, develop and, after at least two public workshops, adopt hydrogen fuel regulations to ensure the following:

(a) That state funding for the production and use of hydrogen fuel, as described in the California Hydrogen Highway Blueprint Plan, contributes to the reduction of greenhouse gas emissions, criteria air pollutant emissions, and toxic air contaminant emissions. The regulations shall, at a minimum, do all of the following:

(1) Require that, on a statewide basis, well-to-wheel emissions of greenhouse gases for the average hydrogen powered vehicle fueled by hydrogen from fueling stations that receive state funds are at least 30 percent lower than emissions for the average new gasoline vehicle in California when measured on a per-mile basis.

(2) Require that, on a statewide basis, no less than 33.3 percent of the hydrogen produced for, or dispensed by, fueling stations that receive state funds be made from eligible renewable energy resources as defined in subdivision (a) of Section 399.12 of the Public Utilities Code.

(3) Prohibit hydrogen fuel producers from counting as a renewable energy resource, pursuant to paragraph (2), any electricity produced from sources previously procured by a retail seller and verifiably counted by the retail seller towards meeting

the renewables portfolio standard obligation, as required by Article 16 (commencing with Section 399.11) *of Chapter 2.3 of Part 1 of Division 1* of the Public Utilities Code.

(4) Require that all hydrogen fuel dispensed from fueling stations that receive state funds be generated in a manner so that local well-to-tank emissions of nitrogen oxides plus reactive organic gases are at least 50 percent lower than well-to-tank emissions of the average motor gasoline sold in California when measured on an energy equivalent basis.

(5) Require that well-to-tank emissions of relevant toxic air contaminants for hydrogen fuel dispensed from fueling stations that receive state funds be reduced to the maximum extent feasible at each site when compared to well-to-tank emissions of toxic air contaminants of the average motor gasoline fuel on an energy-equivalent basis. In no case shall the toxic emissions be greater than the emissions from gasoline on an energy equivalent basis.

(6) Require that providers of hydrogen fuel for transportation in the state report to the state board the annual mass of hydrogen fuel dispensed and the method by which the dispensed hydrogen was produced.

(b) The regulations shall also require that, in any year immediately following a 12-month period in which the mass of hydrogen fuel dispensed for transportation purposes in California exceeds ~~1,500~~ *2,500* metric tons, the production and *direct* use of hydrogen fuels for motor vehicles in the state, including, but not limited to, any hydrogen highway network that is developed pursuant to the California Hydrogen Highway Blueprint Plan, shall contribute to a reduced dependence on petroleum, as well as reductions in greenhouse gas emissions, criteria air pollutant emissions, and toxic air contaminant emissions. For the purpose of this subdivision, the regulations ~~shall, at a minimum,~~ *, at a minimum, shall* do all of the following:

(1) Require that, on a statewide basis, well-to-wheel emissions of greenhouse gases for the average hydrogen powered vehicle in California are at least 30 percent lower than emissions for the average new gasoline vehicle in California when measured on a per-mile basis.

(2) Require that, on a statewide basis, no less than 33.3 percent of the hydrogen produced or dispensed in California for motor

vehicles be made from eligible renewable energy resources as defined in subdivision (a) of Section 399.12 of the Public Utilities Code.

~~(3) Allow hydrogen fuel producers to count as a renewable energy resource, pursuant to paragraph (2), no more than one-half of the renewable sources of electricity used to produce hydrogen fuel that were previously procured by a retail seller and verifiably counted towards meeting the renewables portfolio standard obligation, as required by Article 16 (commencing with Section 399.11) of the Public Utilities Code.~~

(3) Prohibit hydrogen fuel producers from counting as a renewable energy resource, for the purposes of paragraph (2), any electricity produced from sources previously procured by a retail seller and verifiably counted by the retail seller towards meeting the requirements established by the California Renewables Portfolio Standard Program, as set forth in Article 16 (commencing with Section 399.11) of Chapter 2.3 of Part 1 of Division 1 of the Public Utilities Code.

(4) Require that all hydrogen fuel dispensed in California for motor vehicles be generated in a manner so that local well-to-tank emissions of nitrogen oxides plus reactive organic gases are at least 50 percent lower than well-to-tank emissions of the average motor gasoline sold in California when measured on an energy equivalent basis.

(5) Require that well-to-tank emissions of relevant toxic air contaminants from hydrogen fuel produced or dispensed in California be reduced to the maximum extent feasible at each site when compared to well-to-tank emissions of toxic air contaminants of the average motor gasoline fuel on an energy-equivalent basis. In no case shall the toxic emissions from hydrogen fuel be greater than the toxic emissions from gasoline on an energy-equivalent basis.

(6) Authorize the board, after at least one public workshop, to grant authority to the board's executive officer to exempt from this subdivision, for a period of no more than five years, small hydrogen dispensing facilities with a rated capacity of no more than 10 kilograms of hydrogen fuel per day. The exemption may be extended on a case-by-case basis by the executive officer upon a finding that the extension will not harm public health. Facilities that receive state funding shall not be eligible for this exemption.

(c) Notwithstanding subdivision (b), the state board may increase the ~~1,500~~ *2,500*-metric-ton threshold in subdivision (b) by no more than ~~500 metric tons if either~~ *1000 metric tons if at least one* of the following requirements ~~are~~ *is* met:

(1) The ~~1,500~~ *2,500*-metric-ton threshold is first met prior to January 1, 2010.

(2) The state board determines that the ~~1,500~~ *2,500*-metric-ton threshold has been met primarily due to hydrogen fuel consumed in heavy duty vehicles.

(3) The state board determines at a public hearing that increasing the threshold would accelerate the deployment of hydrogen fuel cell vehicles in the state.

(d) The state board, in consultation with other relevant agencies as appropriate, shall review the renewable resource requirements adopted pursuant to paragraphs (2) and (3) of subdivision (a) and paragraphs (2) and (3) of subdivision (b) every ~~three~~ *four* years and shall increase the renewable resource percentage requirements if it determines that it is technologically feasible to do so and will not substantially hinder the development of hydrogen as a transportation fuel in a manner that is consistent with this section.

(e) The state board shall review the emission requirements adopted pursuant to paragraphs (1), (4), and (5) of subdivision (a) and paragraphs (1), (4), and (5) of subdivision (b) every ~~three~~ *four* years and shall strengthen the requirements if it determines it is technologically feasible to do so and will not substantially hinder the development of hydrogen as a transportation fuel in a manner that is consistent with this section.

(f) The state board shall produce and periodically update a handbook to inform and educate motor vehicle manufacturers, hydrogen fuel producers, hydrogen service station operators, and other interested parties on how to comply with the requirements set forth in this section. This handbook shall be made available on the agency's Internet Web site.

(g) The Secretary for Environmental Protection shall convene the California Environmental Protection Agency's, Environmental Justice Advisory Committee at least ~~twice~~ *once* annually to solicit the committee's comments on the production and distribution of hydrogen fuel in the state.

(h) The Secretary for Environmental Protection, in consultation with the state board, shall recommend to the Legislature and the Governor incentives that could be offered to businesses and consumers within the hydrogen fuel industry to spur the development of clean sources of hydrogen fuel.

~~(i) As used in this section, "well-to-tank emissions" means~~

(i) (1) Unless the context requires otherwise, the definitions set forth in this subdivision govern the construction of this section.

(2) "Well-to-tank emissions" means emissions resulting from production of a fuel, including resource extraction, initial processing, transport, fuel production, distribution and marketing, and delivery into the fuel tank of a consumer vehicle~~,~~ ~~and "well-to-wheel~~.

(3) "*Well-to-wheel* emissions" means emissions resulting from production of a fuel, including resource extraction, initial processing, transport, fuel production, distribution and marketing, and delivery and use in a consumer vehicle.

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